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HON. SECRETARY:

CLIVE E. LORD,
LAURAMONT, SANDY BAY.



Tasmanian Field Naturalists' Club

EASTER CAMP-OUT

1912

TO MARIA ISLAND

REPORT ON CAMP-OUT

By Clive E. Lord, Hon. Secretary.

GEOLOGICAL NOTES

By A. D. Mackay, B.Sc.

NOTES ON THE BIRD LIFE

By Robert Hall, C.M.Z.S.

Reprinted from "The Tasmanian Mail."

LIST OF CAMP MEMBERS

Mr. R. Atkinson.	Miss K. Packer.
Miss M. Bargh.	Mr. H. Park.
Miss N. Bargh.	Mr. A. Payne.
Miss O. Barnard.	Mr. J. G. Peacock.
Miss Brumby.	Mr. C. Plowman.
Mr. W. H. Clemes.	Mrs. J. Reid.
Mr. C. Chepmell.	Mrs. J. K. Reid.
Mr. Cuthbertson.	Miss M. Reid.
Miss D. Dean.	Mr. H. Redd.
Mr. H. Dean.	Mr. L. Rodway.
Miss Elliott.	Mr. J. Searl.
Mr. E. A. Elliott.	Mr. J. Simson.
Mr. Fesenmeyer.	Mr. R. Stops.
Professor Flynn.	Mr. W. E. Taylor.
Mr. W. Golding.	Mrs. Taylor.
Mr. F. Gracher.	Miss J. Todd.
Mr. G. He.	Miss M. Todd.
Mr. R. Hall.	Mr. R. Todd.
Mr. E. Harrison.	Mr. W. Todd.
Mr. E. P. Harrison.	Mr. Tuck.
Mr. J. Harrison.	Mr. A. R. Tucker.
Mr. R. C. Harvey.	Miss Tucker.
Miss Hookey.	Mr. E. Tyndall.
Mr. J. Hurford.	Miss E. Vautin.
Mr. J. Laing.	Mr. A. C. Walch.
Mr. Laing.	Mr. J. Walch.
Mr. A. Lewis.	Mr. B. Watchorn.
Mr. E. Lines.	Mr. C. Watson.
Mr. Alec Lord.	Mr. E. Williams.
Mr. C. E. Lord.	Mr. E. Woods.
Mr. A. D. Mackay.	Assistants.
Miss C. Marsh.	W. G. Cole.
Mr. W. L. May.	J. Harber.
Miss Ogilvie.	F. Walbourn.
Miss G. Ogilvie.	W. Woodward.



1. The Fishing Party leaving the Jetty at Darlington, Maria Island.
2. Breaking Camp.

Tasmanian Field Naturalists' Club

EASTER CAMP-OUT, 1912.

DARLINGTON, MARIA ISLAND.

(By Clive E. Lord.)

Maria Island having been selected as the camp site for the eighth annual camp of the Tasmanian Field Naturalists' Club, 63 members were aboard the s.s. Mongana by 8 o'clock on Good Friday morning. Six more had already left in the s.v. Edina, kindly placed at the disposal of the club by Mr. W. Golding, which made the total party 69.

The club first visited Maria Island in 1908, when 27 members attended a camp held at Soldiers' Point. This year, having regard to the many buildings, etc., of historic interest, and also the famous fossil cliffs, it was decided to camp at Darlington, and Mr. G. E. Brettingham Moore kindly gave the club permission to camp on his property.

Good Friday turned out a perfect autumn day, and everyone enjoyed the trip to Dunalloy, which was reached before 12 o'clock. Lunch was served as we were going through the Canal and Blackman's Bay, while soon afterwards Maria Island appeared in sight. After steaming across to Chinaman's Bay and landing some passengers, a course was shaped for Darlington, where the local residents together with the crew of the Edina, welcomed us shortly after 3 p.m.

Darlington is situated at the N.W. corner of the island, and is the site of the old convict station and the base of the Bernacchi operations. Maria Island itself is situated several miles off the East Coast of Tasmania, and is rather mountainous. The lower portion is only connected with the northern part of the island by a low sandy neck, on the western side of which lies Chinaman's Bay, and on the other Riedle Bay. The chief mountains, which are situated in the northern half, are Mount Maria and The Bishop and Clerk; at the base of the latter the famous fossil cliffs are situated.

Historically, the island has an interesting record, being first discovered by Tasman in 1642. In 1802 an expedition, fitted out by the French Government, under the command of Captain Baudin, called at the island, and one of their

number, M. Monge, the surgeon, was buried near the shore, not far from Chinaman's Bay. Later, when Tasmania was settled as a British colony, Maria Island was chosen as one of the convict stations, and many of the buildings erected at that time are still standing, although a good number were demolished in Bernacchi's time. Among the most interesting of those remaining are the windmill, erected in 1810, and Smith O'Brien's cottage, where the famous Irish exile spent a good deal of his time during his enforced stay on the island. The majority of the buildings at present forming the settlement were erected during the Bernacchi era, and include a large hotel of 30 rooms, and many smaller houses, and also a row of 12 cottages, which are well-known as "The Twelve Apostles," while a large sum of money must have been spent in the erection of the cement works, which at the present time are almost reduced to ruins. But, apparently, money was not much of an object in those days, for £175 was spent in the erection of a pigeon loft, portion of which is still standing.

Midway between Maria Island and the mainland lies Lachlan Island, a rocky islet of some eight or nine acres in extent, in connection with which there is a well-known legend to the effect that it is named after a convict called McLachlan, who, with another prisoner, made his escape from the station at Long Point and swam to the island with leg-irons on. McLachlan died on the island from exhaustion, but his mate reached the mainland, only to be recaptured soon after. There are several different versions of this remarkable escape, but as far as authentic records go, none of them appear to be correct, as it seems to be more probable that the island was named after Governor Macquarie, whose Christian name was Lachlan. Scott is said to have referred to it as Lachlan Island in 1824, whereas the convict station on Maria Island was not founded until a year or so after that date.

But, to return to the present. As soon as the steamer was berthed at the jetty a start was made in getting all the camp impedimenta ashore, and loading it on the bullock waggons for conveyance to a site near the old cement works, this hav-

ing been chosen in preference to the position at the hopfields.

All hands were soon busily engaged in erecting tents, etc., and the country in the near vicinity of the cement kilns resembled a small township in the making, and perhaps there was more industry shown than the place has seen since the days of the Bernacchi era of the island's history. The cooks were especially fortunate, as Mr. E. Pitfield, who is manager of Mr. Moore's estate, very kindly allowed them to use the one-time manager's residence (of the cement works). This was a great benefit, especially when the rain came, for we were able to have all our meals under cover.

The first meal in camp was served under slight difficulties, owing to our late arrival, but on the next day things were put in proper order, and everything worked without a hitch.

Friday evening was a quiet one for all, as most of the party were rather tired after the events of the day, and soon retired to their tents; but the following morning the camp was astir early, and several parties went down to the beach for a swim in Neptune's element, while others preferred a fresh-water dip in the creek which flowed near the camp.

Soon after breakfast several parties were formed, in order to make excursions to places of interest, the main party being that which went dredging in the Mangana, which vessel went several miles to the eastward of Maria Island, and was ably handled by the genial skipper, Captain Kerr, thus enabling numerous hauls to be made at a depth of about 50 fathoms.

On Sunday nearly all the members boarded the Edina, while several were taken in tow in a large boat that had been taken up for the use of fishing parties, and a start was made for Chinaman's Bay. The weather was all that could be desired, and the journey was enjoyed by everyone. A landing was effected at the S.E. end of the bay, and after a short walk, Riedle Bay, which is situated on the eastern side of Maria Island, was reached, and a most perfect vista was unfolded. Many were the expressions of delight at the beautiful beach, with the great ocean rollers curling in upon the shore. After spending an enjoyable day, the return trip was commenced about 4 o'clock, and the party landed at Darlington once again, in good time for the evening meal. Although the day was a most perfect one, the crew of the launch expected a change before long, as the glass had been steadily dropping all day. Early on Monday morning the storm broke over the camp, a regular "southerly buster," and those under canvas had an exciting time for an hour or

so; but on the whole, the tents stood very well, only one coming down, and another was deserted by its inmates in favour of a room at the cottage. The Edina got knocked about a little in the bay, but her crew managed, after much hard work, to gain a more sheltered anchorage near the pigeon loft, and here the staunch little vessel remained during the remainder of the gale, although at times the seas were large enough to cause her to roll scuppers under. However, as the majority of the party were experienced campers, they did not mind the weather conditions, and during the morning several parties visited the fossil cliffs and other places of interest. In the afternoon a good number assembled in one of the old buildings at the cement works when a large fire was soon burning brightly, and the company present were entertained by phonograph selections (Mr. Adkins), and Mr. Hector McRae discoursed music with the aid of his historic bagpipes, which, by the way, were quite a feature of the camp, as during the evenings dances were held and Mr. McRae acted as orchestra, being relieved at times by selections on Mr. Golding's pathophone and Mr. Adkins's phonograph.

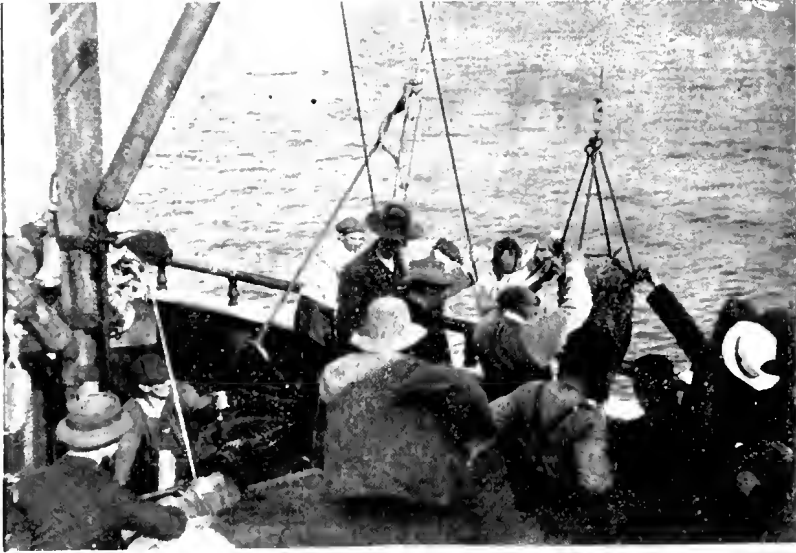
Several evenings "camp fires" were held, and the members sang songs, etc. On Sunday evening hymns were sung, while on another occasion Mr. Hall spoke about several species of birds, and other members recited. These camp fires, together with the impromptu dances, were very popular, and some very pleasant evenings were spent during the time we were under canvas.

On Tuesday morning early rising was the order of the day, and the tents were struck in good time, and all impedimenta ready for transport at the appointed time. The Mangana did not leave till 2.30 p.m., and owing to having to call at several ports and a shortage of coal we did not reach Dunally till almost dark. Here a stay of over half an hour was made, in order to take in fuel and cargo. The remainder of the journey was without incident, town being reached at 12.20 a.m. During the journey many choruses were sung, and as the vessel reached the wharf everyone joined in singing the National Anthem.

GEOLOGICAL NOTES ON MARIA ISLAND.

(By A. D. Mackay, B.Sc.)

Maria Island is exceptionally interesting geologically. A fine series of rocks is exposed at the northern end of the island near the camp, and it is a matter for regret that the rough weather expe-



1. Hoisting the Dredge on Board.
2. A Scene near the Camp.



GROUP OF MEMBERS



WHO ATTENDED THE CAMP.



1. Off for the Day.
2 The Cook and his Assistants.

rienced prevented more detailed observation by the members of the Tasmanian Field Naturalists' Club during their recent visit.

The oldest rocks observed were at Chinaman's Bay, at the south end of the isthmus joining the two portions of Maria Island. Here a dark-coloured quartzite is exposed not far from the granite. It has resulted from the metamorphism by the granite of some sandstone, which is older than the igneous rock, and is probably of either Silurian or Ordovician age. The unaltered sandstone is obscured by surface soil, and it is only near the contact that a clean section of the rock is visible, and as all distinguishing marks are there destroyed, identification is difficult.

The eastern part of the island is formed of a portion of that line of granite which extends down the eastern coast of Tasmania. As the camp was on the north-western corner of the island, this rock was not examined in detail, but it appears to be normally of a grey colour, pink or dark red in places. It is simple in structure, and consists essentially of dark biotite, an acid feldspar, and quartz. In places it is coarse grained with feldspar crystals two inches long. Near the contact with the sedimentaries it is finer, owing to the more rapid cooling, and assumes a porphyritic appearance with phenocrysts of feldspar and quartz.

At the north end of the island a fine section is exposed at the Fossil Cliffs. These consist of permo-carboniferous limestone overlying glacial conglomerate of unknown thickness. This conglomerate consists of a matrix of limestone enclosing erratic blocks of various sizes and composition. Blocks of granite, quartzite, sandstone, slate, and other rocks are here gathered together, both small and large. These give the bed a power of resistance to erosion greater than that of the overlying limestones, and in consequence it projects forward several feet, although it is just above sea level, where the force of the sea is greatest. The nearest granite is some miles away; no river could possibly carry such boulders, which are, moreover, not water worn, but angular. Ice was the transporting agency.

The beds exposed in the cliff are divided by Mr. R. M. Johnston into the following series:—(v.) Crinoid zone; (iv.) productus zone; (iii.) fenestella zone; (ii.) pachydomus zone; (i.) erratic zone. Examination is considerably helped by the fact that large blocks of the upper series have been undermined, and fallen down to the conglomerate bed. The rock is so hard, however, that the collection of specimens is almost impossible, the fossils themselves breaking more readily than the enclosing matrix. (i.) This zone has been already described. (ii.) This zone forms the lower part of the cliff, and

so can be easily examined. It contains many pachydomus shells, some beds being almost entirely composed of them. (iii.) The fenestella zone consists of mudstones with specimens of fenestella and spirifer. (iv.) These beds have been quarried for cement making, and were readily reached by camp members. They consist of beds of limestone separated by calcareous shale and mudstone. Specimens were obtained of fenestella, spirifer productus and crinoids. Some fine specimens of crinoids were seen with wide branches, but it was impossible to remove them. The rock is not pure, as it contains quartz particles. It has evidently suffered from heat or compression, as it is highly crystalline. The fossils have thus been partly destroyed, but there are patches more siliceous than the rest, in which multitudinous small fossils can be seen closely. In places chalcedony has been formed from the more siliceous parts.

In addition to the quartz particles, a few water-worn nodules were observed in the rock of a dark green igneous rock, surrounded by an aureole of pyrites. These nodules were evidently deposited together with the enclosing matrix. From observation of hand specimens, they appear to be the ordinary diabase so common in Tasmania. The modern view of this rock, however, is that it is of upper mesozoic age, i.e., later than this rock. Mr. R. M. Johnston, in his "Geology of Tasmania," stated that two eruptive periods had existed, one of which was earlier than these beds. If the rock is really diabase, this view would be supported, but it is so decomposed that identification would be difficult, even with the aid of a microscope. Another view is that it might be gabbro of Devonian age. As yet, however, none has been observed on the East Coast. As the nodules are well water-worn and may have travelled some distance, this might be the more probable view, but the evidence does not warrant an opinion. The aureole of pyrites round the nodule is interesting, and may have been caused by sulphide waters permeating the limestone and precipitating pyrites on coming in contact with the iron salts of the igneous rock. (v.) The crinoid zone is composed of limestone, with plentiful crinoid remains. Overlying the limestone sandstone occurs. This may be either of upper permo-carboniferous age or of lower mesozoic, as sandstone beds occur in each. Some camp members reported that two separate series of sandstone occurred, in which case both eras might be represented. As the mesozoic strata rest conformably upon the permo-carboniferous only, detailed work could decide whether both are there or not. In either case there is a possibility of coal being found, though none was observed.

Intruded into this series of sedimentary

rocks are the usual laccoliths of diabase, so common in south-eastern Tasmania. As this rock was described in last year's report, detailed reference is unnecessary. It is of upper mesozoic age, of medium grain and basic composition. It forms the top of Mount Wellington, the Western Tiers, and many other mountains and hills. A good example is seen at Cape Bernier, which was passed on the way to Maria Island. Here the diabase intrusion can be seen very clearly.

After the diabase intrusion, the present era of denudation began with oscillations of land and sea. The latest movement has been a slight elevation, which has given rise to numerous raised beaches. A good example occurs at the isthmus joining north and south Maria Island.

The presence of the granite is an encouraging feature in searching for mineral deposits, which must occur, if at all, in the pre-Devonian rocks. The granite is very common in Tasmania, and is responsible for the mineral wealth of the island. So far as Maria Island is concerned, no mines have been discovered, though a couple of prospecting shafts remain from the Bernacchi era. The rock would form a good building stone, but can be worked better at other localities, notably near Scottsdale.

The limestone has already been worked for cement making and lime burning, and might yet be the mainstay of the island. However, the presence of quartz in the rock would reduce the grade of lime obtainable, though perhaps not to any great extent. The rock is very hard, and is well suited for a building stone. It would probably form a good substitute for marble. Freestone quarries could also be opened up, though the difficulties of transport would be troublesome.

Maria Island is geologically similar to Schouten Island, where coal seams have been worked extensively, and the possibility of the occurrence of either the lower or upper coal measures should not be overlooked.

In the preliminary building for the cement works, many bricks were made. These do not seem to have been of very good quality, but it may be well that the clay used might by more modern methods produce good bricks, but whether they could compete against those made at New Town is questionable.

It is stated that the soil in the early days was exceptionally rich. It certainly looks very good near the settlement, and the splendid timber growing in the valleys would support the statement. Farming expenses would be high, however, as threshers and chaffcutters would have to remain on the island, and would not have full occupation. Vineyards were planted at one time, but the climate,

though noted for its mildness, was not warm enough for them. The annual rainfall is rather heavier than the neighbouring mainland, and is about twenty-six inches. The soil should be well suited for apples near Chinaman's Bay, and probably in other parts also. At present the timber industry would appear to be the main support of the population. The logs are certainly fine ones. So far as scenery is concerned, the island is well to the fore, and it is a matter for wonder that there are so few tourists.

It will be seen that the geological work of the party is incomplete, owing to the rough weather and short time available. The whole time spent in camp would be all too short to enable one to properly examine the Fossil Cliffs alone.

THE BIRDS OF MARIA ISLAND.

(By Robert Hall, C.M.Z.S.)

Maria Island, named in honour of Maria Van Diemen, is from one of the many Dutch names that would be better kept in their native pronunciation. In the original it is softer and more pleasing. The navigator and naturalist, Baudin, in 1802 (*L'Emu*, vol. XI, pt. 4, 1912), visited this charming portion of Tasmania, and left in Paris a mention of the birds in which we, a century later, find a similar interest. In his day the duty of explorers was to make the first record of species; in ours it is to correlate and get life histories. The facts come slowly by reason of the few workers.

Baudin wrote of that graceful bird, the Australian black swan, and Sula, the Solan goose, so-called, but now the gannet or booby, the most southern of its family.

Baudin, as a maritime explorer, was always keen upon what would suit his crew as food, and the swan was finest of all. "The cormorant and the albatross (captured off Maria), although less good, are not for that reason to be disclaimed."

He speaks of the "Goneland gris"! Does any reader know which bird is intended?

The list of birds observed on the field naturalists' trip is a fairly full one. It is representative of the Tasmanian air fauna. But where were the waders? Evidently they had left the island beaches while those of the migratory section had gone north on their way to the Siberian nesting ground in the tundra. Many are, at the present time, spending some days in Corea, changing the winter plumage—the plumage of our summer.

The spine-tail swift, seen about two weeks before the camp, is journeying towards Manchuria. Either there or in



1. Bringing the Luggage back to the Darlington Jetty.
2. Local Residents Hauling Logs at Darlington.

Japan it will nest, just as the cherry blossom is losing its pink petal. Mr. C. Belcher, in Donald Macdonald's "Nature Notes," asks if any observation later than March 10 of this year has been made in Victoria. Here is one in higher latitude.

The voice of the cuckoo we missed. No longer this autumn will its semitones be heard, simply because it is quickly passing across the Straits into the Bassian sub-region of Australia. It would be interesting to know just how far it ascends into low latitudes, and if North Queensland is one terminus of its annual migration. Another question arises! Are the Bassian and Torresian areas the migratory course of *Cuculus inornatus* of Tasmania? A great quantity of Australian data on the migration of its birds is needed. As this forth-comes, so will a knowledge of their economic value. A knowledge of their routes would be valuable, just as trade routes; but, as with wireless telegraphy, we need to be tuned to their travelling calls; to have the seeing eye, and the analyst's hand, before we come into possession of facts in relation to food.

Away flew a cuckoo shrike (*Granculus parvirostris*), a strictly Tasmanian sub-species, because of its smaller bill. We found it still in its nesting ground. Here, again, our knowledge of distribution is much too limited. In Victoria the species journeys north into Queensland every autumn. What does the Tasmanian sub-species do? Does it fall in with the rule that the further north birds migrate, the further south they travel on their return in the spring? This would bring back the flocks of our small billed sub-species, and them alone. How very necessary to Tasmania is this unwritten law of the insectivorous birds.

The geological map of Mr. R. M. Johnston shows the eastern half of the island to be granitic. It is here we expected to see the spotted ground thrush, and we did find it. It rose with its quail-like burr.

About the centre of the island, and immediately north of Oyster Bay (Chinaman's Bay), is situated a swamp that offers cover and food for certain water birds. I was unable to examine this depression, but a well-informed resident (Mr. McCulloch) tells me he often sees the black-backed coot (*Porphyrio melanotus*), now considered by Mr. Gregory Mathews as a sub-species *P. m. fletcheri*, in honour of a Tasmanian lady.

The various watercourses, though short, were indicated by the dusky fantail and little tit to be permanent.

Upon Mr. Brettingham-Moore's property at Darlington that useful bird, the

yellow-tailed tit, was doing duty in a flock. This species always gives the country an atmosphere of civilisation.

So does the imported starling. We saw a flock. At this end of the island its mission is for good, as it helps the grass outgrow its enemy the insect. It is here that sheep benefit.

We saw magpies of two kinds, robins of three kinds, ducks of four kinds, and honey-eaters of six kinds.

There were quite large flocks of the parrot peculiar to Tasmania (*Platyercus browni*), and we heard of a black cockatoo.

In the early hours of the night the call of boobook passed over the camp; the spotted owl was calling to its mate.

There were a few species of sea birds to be seen. Close by the wonderland of fossil beds in the north-east sailed the majestic sea eagle. At this time the land form, our largest eagle, was spirally soaring along Mount Maria.

Still nearer to these fossil beds we saw the Pacific gull and its cousin, the silver gull. Upon the beach was a solitary pied oyster-catcher, while further down the sand beach was a sooty oyster-catcher.

Standing on a broken ledge of fenestella was a pied cormorant. The second species was observed in Chinaman's Bay.

Altogether 59 species are now recorded as found in the island. With the exception of those marked *, they were identified by the writer. Those marked * were identified by Mr. Elliott and Mr. McCulloch. Mr. E. A. Elliott observed the firetail and the white-fronted heron.

The list is as follows:—

Short-tailed petrel (*Puffinus tenuirostris*), white-capped albatross (*Thalassogeron cautus*), sooty albatross (*Phoebastria fuliginosa*), Pacific gull (*Gabianus pacificus*), silver gull (*Larus novaehollandiae*), crested tern (*Sterna bergii*), white-breasted cormorant (*Phalacrocorax gouldi*), pied cormorant (*P. hypoleucus*), gannet (*Sula gerratoria*), fairy penguin (*Endiptyula undina*), black swan (*Chenopsis atrata*), black duck (*Anas superciliosa*), shoveller (*Spatula rhynchotis*), blue-billed duck (*Erismatura australis*), musk duck (*Biziura lobata*), white-breasted oyster-catcher (*Oenatopus longirostris*), sooty oyster-catcher (*H. fuliginosa*), white-fronted heron (*Notophox novaehollandiae*), baldcoot (*Porphyrio melanotus*), spur-winged plover (*Lobivanellus lobatus*), wedge-tailed eagle (*Pterocetus audax*), white-bellied sea eagle (*Haliaetus leucogaster*), harrier (*Circus sp.*), spotted owl (*Ninox maculata*), raven (*Corone australis*), hill crow-shrike (*Stre-*

pera arguta), small-billed cuckoo-shrike (*Coracina parvirostris*), scarlet-breasted robin (*Petroica leggei*), flame-breasted robin (*P. phoenicea*), dusky robin (*P. vittata*), Gould's blue wren (*Malurus cyaneus*), dusky fantail (*Rhipidura diemenensis*), brown-rumped tit (*Acanthiza diemenensis*), yellow-rumped tit (*A. chrysorrhoa*), spotted babbling thrush (*Pipilo-mia punctatum*), lesser white-backed magpie (*Gymnorhina hyperoleuca*), grey butcher-bird (*Cracticus cinereus*), grey-tailed whistler (*Pachycephala glaucura*), spine-billed honey-eater (*Acanthorhynchus dubius*), strong-billed honey-eater (*Melithreptus validirostris*), black-headed honey-eater (*M. affinis*); crescent

honey-eater (*Meliornis diemenensis*), New Holland honey-eater (*M. novaehollandiae*), yellow wattle-bird (*Acanthochraera paradoxa*), yellow-throated honey-eater (*L. tilotis flavigularis*), white-eye (*Zosterops coerulescens*), yellow-tipped pardalote (*Pardalotus affinis*), pipit (*Anthus australis*), *fire-tailed finch (*Zonæginthus bellus*), *spine-tailed swift (*Chaetura cordacuta*), *azure kingfisher (*Alecyon azurea*), *pallid cuckoo (*Cuculus inornatus*), black cockatoo (*Calyptorhynchus funereus*), yellow-billed parrakeet (*Platycercus brownii*), bronzewing pigeon (*Phaps chalaeptera*), brown quail (*Synœcus australis*), painted quail (*Turnix varia*), starling (*Sturnus vulgaris*).



